

2018: LYM Pre-HCT

This form must be completed for all recipients whose primary disease, reported on the Pre-TED Disease Classification Form (Form 2402) is Hodgkin Lymphoma (HL) or non-Hodgkin Lymphoma (NHL). If the recipient has **Waldenstrom's Macroglobulinemia/Lymphoplasmacytic Lymphoma, the Form 2019 should be completed instead.**

Subsequent Transplant

If this is a report of a second or subsequent transplant for the same disease subtype and **this baseline disease insert was not completed for the previous transplant** (e.g., patient was on TED track for prior HCT or prior HCT was autologous with no consent), begin at question 1.

If this is a report of a second or subsequent transplant for a **different disease** (e.g. patient was previously transplanted for a disease other Hodgkins or Non-Hodgkins Lymphoma), begin at question 1.

If this is a report for a second or subsequent transplant for **relapse or progression of the same disease**, select "yes" and continue with question 193. Beginning with question 193 allows for the capture of data related to treatment given for relapsed or progressed disease.

If this is a report for the **same disease, but not for relapsed or progressive disease** (i.e., a planned subsequent transplant), select "no" and continue with question 281.

[Q1-59: Disease Assessment at Diagnosis](#)

[Q60-71: Laboratory Studies at Diagnosis](#)

[Q72-96: Assessment of Nodal and Organ Involvement at Diagnosis](#)

[Q97-158: Disease Assessment at Transformation](#)

[Q159-170: Laboratory Studies at Transformation](#)

[Q171-192: Assessment of Nodal and Organ Involvement at Transformation](#)

[Q193-280: Pre-HCT Therapy](#)

[Q281-323: Disease Assessment at Last Evaluation Prior to the Start of the Preparative Regimen](#)

Manual Updates:

Sections of the Forms Instruction Manual are frequently updated. The most recent updates to the manual can be found below. For additional information, select the manual section and review the updated text.

Date	Manual Section	Add/ Remove/ Modify	Description
4/4/ 17	2018: LYM Pre-HCT	Modify	Instruction change for questions 94-96 and 190-192: Age range for Lansky Scale has been updated from recipients less than 16 years old to recipients one year old to less than 16 years old. If the recipient is less than one year old, questions 94-96 and 190-192 should be left blank.
2/ 24/ 17	Comprehensive Disease- Specific Manuals	Modify	Updated explanations of triggers for disease inserts to refer to the primary disease reported on the Pre-TED Disease Classification Form (Form 2402) instead of the Pre-TED Form (Form 2400)

Q1-59: Disease Assessment at Diagnosis

Question 1: What was the date of diagnosis?

Report the date of the first pathological diagnosis (e.g., lymph node biopsy) of lymphoma. Enter the date the sample was collected for examination. If the diagnosis was determined at an outside center, and no documentation of a pathological or laboratory assessment is available, a dictated date within a physician note may be reported. Do not report the date symptoms first appeared. The date of diagnosis is important because the interval between diagnosis and HCT is often a significant indicator for the recipient's prognosis post-HCT.

If, during the course of the disease, the subtype transforms (typically to a more aggressive type), report the earliest date of diagnosis. The date of diagnosis prior to transformation should also be reported on the Pre-TED form for the first HCT reported.

Questions 2-3: What was the lymphoma histology at diagnosis?

* When reviewing the recipient's malignancy history, pay special attention to situations where a recipient is diagnosed with multiple histologies at the same time, when one disease histology transforms into a different histology, or when two separate disease processes are occurring simultaneously. A thorough review of the medical records may help identify those situations and working with the transplant physician is necessary to determine how to best report a unique case. Providing the pathology reports at diagnosis and/or transformation to CIBMTR using a Log of Appended Documents (Form 2800) may prevent future data queries.

* If the recipient has CLL that has transformed into DLBCL (Richter's transformation), report the DLBCL histology in question 2 and the transformation from CLL in question 97. A *Chronic Lymphocytic Leukemia Pre-HCT Data Form 2013* must be completed to collect information about the diagnosis, treatment, and other data for CLL prior to transformation.

* If a recipient has Hodgkin lymphoma and another malignancy (such as CLL [NOT a Richter's transformation]), the transplant physician must be consulted to determine the primary disease for transplant. If one of the malignancies is not in remission, this may help determine the indication for transplant. The other malignancy should be reported in the malignancy section of the Pre-TED form.

* If the recipient has multiple types of lymphoma at diagnosis or has a transformation, report the histopathological type of the least aggressive lymphoma at diagnosis (question 2) and of the most aggressive lymphoma as a transformation (question 99). The determination of the occurrence of transformation, and the resultant histology, must be determined by a physician.

Indicate the histopathological diagnosis of the lymphoma by selecting the specified subtype in the drop down menu or the 2-digit key code from the list located on the form. Please note that these codes are utilized for data entry purposes and are not the same as the CIBMTR database codes. If “Other B-cell lymphoma” (code 25) or “Other T-cell/NK-cell lymphoma” (code 40) is selected, specify the type in question 3.

Question 4: Were immunohistochemical stains obtained? (prior to any transformation)

Immunohistochemical staining is a process where tissue samples are treated with antibodies and dye. The antibodies bind to specific antigens on the surfaces of the cells, allowing for the identification of those cell surface markers under microscopy.

Indicate “yes” if immunohistochemical stains were obtained at diagnosis. If “yes,” continue with question 5.

If no immunohistochemical stains were obtained, select “no” and continue with question 19. If it is unknown if immunohistochemical stains were obtained, select “unknown” and continue with question 19.

Questions 5-18: Immunohistochemical stain results

Report all findings identified by immunohistochemical analysis at diagnosis by selecting “positive,” “negative,” or “not done” for each question. This information is usually found in the pathology report from a blood, bone marrow, or other tissue sample in which immunohistochemical processes were used.

Question 19: Was flow cytometry (immunophenotyping) performed? (prior to any transformation)

Flow cytometry assessment is a method of analyzing peripheral blood, bone marrow, or tissue preparations for multiple unique cell characteristics. Cell surface markers are tagged with a light-sensitive dye. The cells are exposed to laser beam, and the deflection of light is measured and corresponding cell surface markers can be identified and quantified.

Indicate “yes” if flow cytometry was done at diagnosis. If “yes,” continue with question 20.

If flow cytometry was not done, select “no” and continue with question 40. If it is unknown if flow cytometry was done, select “unknown” and continue with question 40.

Questions 20-39: Flow cytometry (immunophenotyping) results:

Report all findings identified by flow cytometry at diagnosis by selecting “positive,” “negative,” or “not done” for each question. This information is usually found in the pathology report from a blood, bone marrow, or other tissue sample on which flow cytometry was performed.

Question 40: Were cytogenetics tested (conventional or FISH)?

Cytogenetics is the study of chromosomes. This assessment involves testing blood or bone marrow for known chromosomal abnormalities that reflect the recipient’s disease. Fluorescence *in situ* hybridization (FISH) is categorized with cytogenetics. Although often used for finding specific features in DNA, FISH is not as sensitive as molecular methods, even though the markers identified may be the same. For more information about cytogenetic testing and terminology, see [Appendix C](#).

If a cytogenetic assessment was performed at diagnosis and prior to first therapy, select “yes” and continue with question 41.

If no cytogenetic assessments were performed, select “no” and continue with question 51. If it is unknown if cytogenetic testing was performed, select “unknown” and continue with question 51.

Questions 41-49: Specify if any of the following cytogenetic abnormalities were identified at diagnosis:

Report all abnormalities identified by all methods of cytogenetic assessment at diagnosis by selecting “yes” or “no” for each question.

Question 50: Was documentation submitted to the CIBMTR?

Indicate if a copy of the cytogenetics or FISH report is attached. Use the Log of Appended Documents (Form 2800) to attach a copy of the cytogenetics or FISH report. Attaching a copy of the report may prevent additional queries.

Question 51: Were tests for molecular markers performed (e.g., PCR)?

Molecular assessment involves testing blood or bone marrow for the presence of known molecular markers associated with the recipient’s disease. Molecular assessment is the most sensitive method of detection, and can indicate known genetic abnormalities (e.g., immunoglobulin (Ig) or T-cell receptor gene rearrangements, or other specific lymphoma gene rearrangements). B- or T-cell lineage assignment can also be identified using molecular assessment. PCR testing is an example of a molecular test method.

If molecular testing was performed at diagnosis or prior to first therapy, indicate “yes” and continue with question 52.

If no molecular testing was obtained, select “no” and continue with question 60. If it is unknown if molecular testing was obtained, select “unknown” and continue with question 60.

Questions 52-58: Molecular markers:

Indicate if each molecular marker was “positive,” “negative,” or “not done” at diagnosis or prior to the first therapy. See Table 1 for common molecular markers associated with different lymphomas. If the recipient had a molecular marker assessed that is not listed, select the result of the assessment in question 57 and specify the marker in question 58. Questions 57 and 58 may be answered multiple times to address each “other” molecular marker.

Table 1. Examples of Molecular Markers¹

Oncogene	Protein	Translocation	Disease
BCL-1	Cyclin D ₁	t(11;14)	MCL
BCL-2	BCL-2 (anti apoptosis)	t(14;18)	FL, some DLBCL
BCL-3	NF-kB inhibitor	t(11;19)	CLL
MYC	Transcription factor	t(8;14)	Burkitt’s Lymphoma
BCL-6	Zinc-finger transcription factor	t(3;14)	DLBCL (some follicular NHL)

¹ National Comprehensive Cancer Network. *Practice Guidelines in Oncology*. v1. 2006

Question 59: Was documentation submitted to the CIBMTR?

Indicate if a copy of the molecular report is attached. Use the Log of Appended Documents (Form 2800) to attach a copy of the molecular report. Attaching a copy of the report may prevent additional queries.

Q60-71: Laboratory Studies at Diagnosis

The following data fields are meant to capture the laboratory values at diagnosis or prior to the initiation of the first therapy.

Questions 60-61: WBC:

Indicate whether the WBC (white blood cell count) was “known” or “unknown” at the time of lymphoma diagnosis. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 61.

Questions 62-63: Hemoglobin:

Indicate whether the hemoglobin value was “known” or “unknown” at the time of lymphoma diagnosis. If “known,” report the laboratory value on the laboratory report in question 63.

Questions 64-66: LDH:

Indicate whether the LDH (lactate dehydrogenase) level was “known” or “unknown” at the time of lymphoma diagnosis. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 65 and the upper limit of normal for the value at your institution in question 66.

Questions 67-69: Serum β 2 microglobulin:

Indicate whether the serum β 2 microglobulin level was “known” or “unknown” at the time of lymphoma diagnosis. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 68 and the upper limit of normal for the value at your institution in question 69.

Question 70: Was a gene expression profile performed?

Gene expression profiling (GEP) allows for the analysis of thousands of genes at once, creating a global picture of cell function. GEP can distinguish cells that are actively dividing and show how cells react to specific treatments.¹

If gene expression profiling was performed at the time of lymphoma diagnosis or prior to the start of first therapy, indicate “yes” and continue with question 71. If gene expression was not performed, select “no” and continue with question 72.

¹ Brunner J, Dispenzieri A. (2013) "Form Revision: Myeloma Changes." Tandem Meetings: CIBMTR Clinical Research Professionals/Data Manager Annual Meeting. Accessed on 9/22/2013 at <http://www.cibmtr.org/Meetings/Materials/CRPDMC/Documents/2013/Feb2013/Feb13FormRevMM-6up.pdf>.

Question 71: Were results considered high-risk lymphoma?

Based on the opinion of a physician, indicate if the results of the gene expression profile were considered high-risk lymphoma. Indicate "yes" or "no."

Q72-96: Assessment of Nodal and Organ Involvement at Diagnosis

Question 72: Was a PET (or PET/CT) scan performed?

Positron Emission Tomography (PET) is a type of nuclear medicine imaging in which a patient receives a small amount of radioactively labeled sugar. Because cancer cells absorb sugar more avidly than other cells of the body, the radioactively labeled sugar accumulates in these areas and reveals tumors as bright spots. A PET/CT combines the results of the PET scan along with the results of a CT (computed tomography) scan.

If a PET or PET/CT scan was performed at diagnosis or prior to the start of first therapy, indicate “yes” and continue with question 73.

If a PET or PET/CT scan was not performed, indicate “no” and continue with question 74.

Question 73: Was the PET (or PET/CT) scan positive for lymphoma involvement at any disease site?

Indicate “yes” if the PET (or PET/CT) scan showed areas of avid uptake consistent with tumor (i.e., lymphoma). Indicate “no” if the PET or (PET/CT) scan did not show areas of avid uptake consistent with tumor.

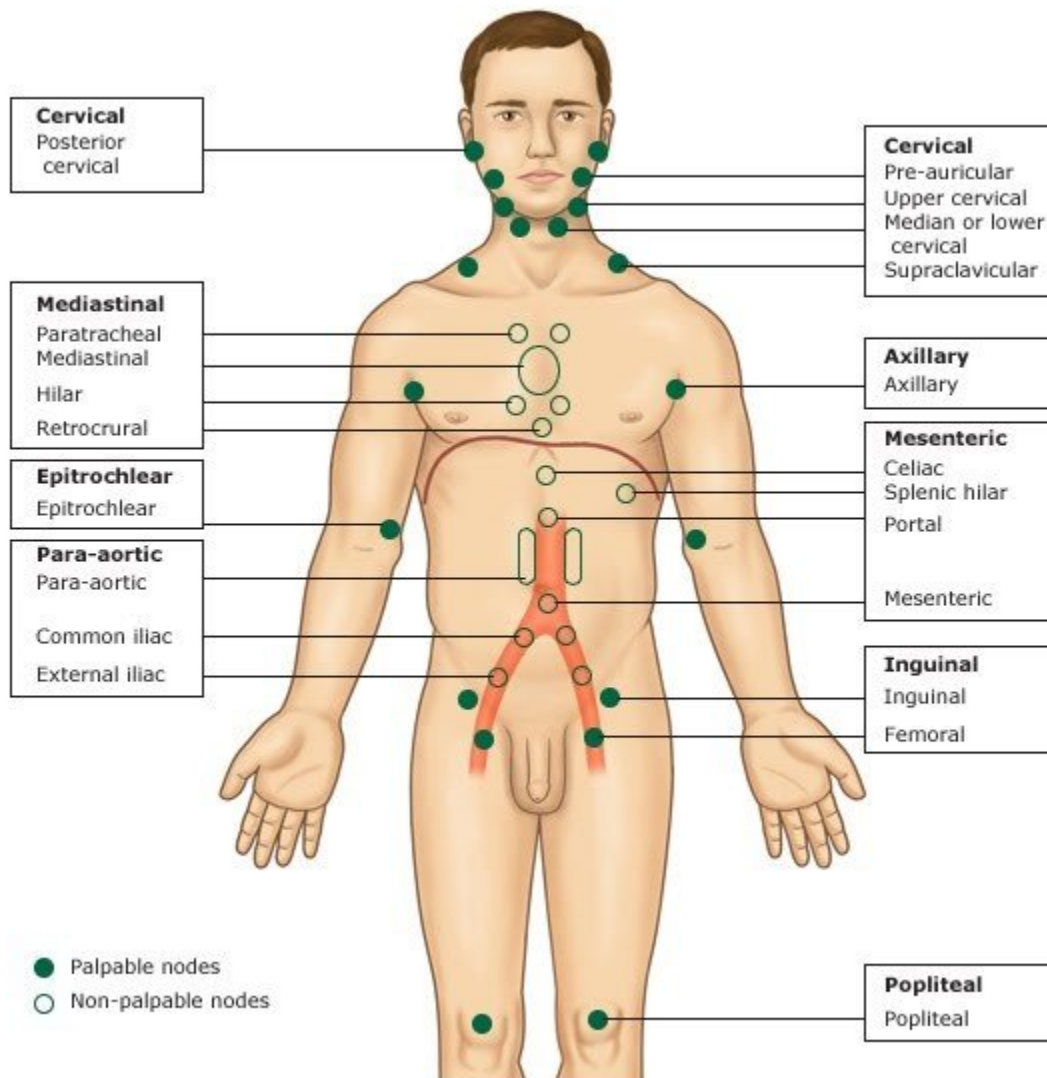
Question 74: Did the recipient have known nodal involvement?

Refer to Graphic 1 below for identification of nodal areas. Nodal involvement may be assessed by a physician palpating lymph nodes, pathology from a lymph node biopsy, or radiological assessment (e.g., PET or CT imaging).

If evidence of nodal involvement was indicated at diagnosis or prior to the start of therapy, select “yes” and continue with Question 75.

If there was no evidence of nodal involvement upon assessment, select “no” and continue with Question 77.

Graphic 1. Nodal Areas¹



¹ "Lymphadenopathy." Web log post. *Horses and Zebras*. Morning Report at Toronto General Hospital, 20 July 2010. Accessed on 9/22/2013 at <http://morningreportgh.blogspot.com/2010/07/lymphadenopathy.html>

Question 75: Specify the total number of nodal regions involved:

Lymph node regions or groups occur above and below the diaphragm. Nodal regions include cervical (neck), axillary (underarm), mediastinal (thoracic), mesenteric (abdominal), para-aortic (pelvic), inguinal (groin), epitrochlear (inside of arm just above elbow), and popliteal (back of knee). Refer to Graphic 2 for specific nodes within each nodal region. Indicate the total number of nodal regions with evidence of lymphoma involvement. Report "one nodal region," "two or more nodal regions," or "unknown."

Question 76: Specify the size of the largest nodal mass:

Report the size of the largest known nodal mass as measured in centimeters. If the mass is given in three dimensions (for example: 3 cm x 5 cm x 4 cm), report the longest two dimensions.

Question 77: Was there any known extranodal or splenic involvement?

Extranodal refers to the presentation of lymphoma outside of the lymph nodes. Common areas of extranodal involvement may include bone, gastrointestinal tract, and skin. Splenic involvement in lymphoma is also common. It is usually evidenced by enlargement of the spleen (splenomegaly). Splenic or other extranodal involvement is most often detected by imaging techniques or pathological findings.

If extranodal or splenic involvement was identified at diagnosis, indicate “yes” and continue with question 78. If there was no evidence of extranodal or splenic involvement at diagnosis, indicate “no” and continue with question 92. If extranodal or splenic involvement was unknown at that time of diagnosis, indicate “unknown” and continue with question 92.

Questions 78-91: Specify site(s) of involvement:

Answer each question with “yes” or “no.” Do not leave any question unanswered. If “other site(s)” is selected, use question 91 to specify the site.

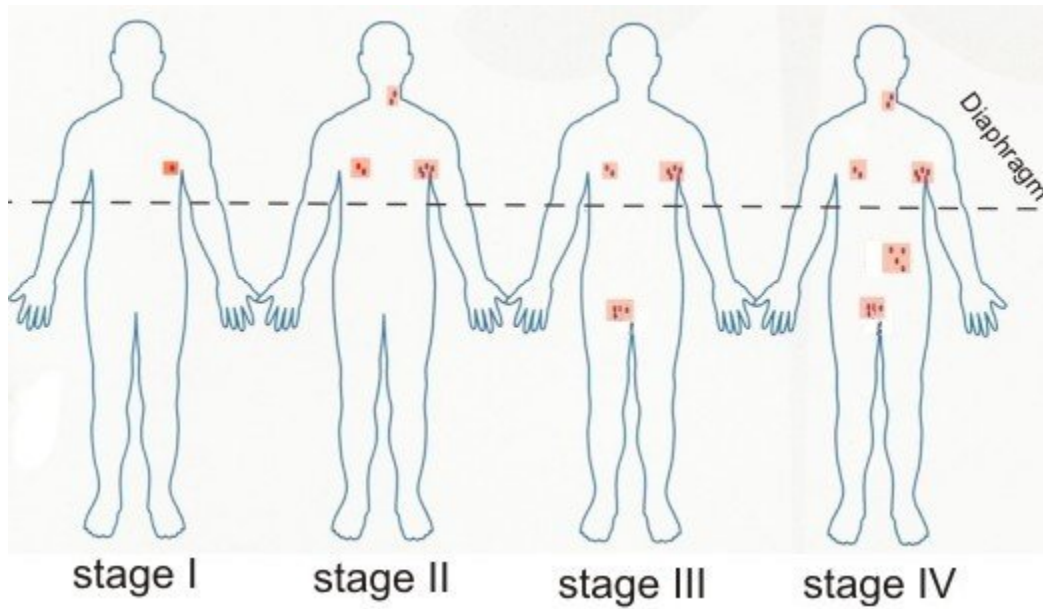
Question 92: Stage of organ involvement:

Use the staging criteria below to indicate the organ involvement at diagnosis. If staging at diagnosis is not available or unknown, select “unknown.”

Table 2. Lymphoma Staging

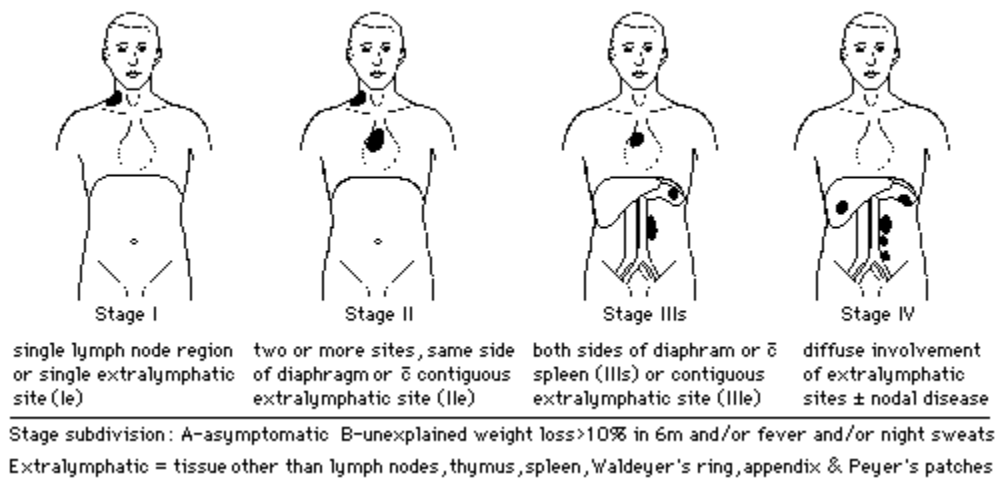
Stage	Description
Stage I	Involvement of a single lymph node region or of a single extralymphatic organ or site
Stage II	Involvement of two or more lymph node regions on same side of diaphragm, or localized involvement of an extralymphatic organ or site, and one or more lymph node regions on same side of diaphragm
Stage III	Involvement of lymph node regions on both sides of diaphragm, which may also be accompanied by localized involvement of extralymphatic organ or site, the spleen, or both
Stage IV	Diffuse or disseminated involvement of one or more extralymphatic organs in tissues with or without associated lymph node enlargement/involvement

Graphic 2. Lymphoma Staging²



² “Staging Lymphomas.” *Patients Against Lymphoma*. 05 May 2013. Accessed on 9/22/2013 at <http://www.lymphomation.org/stage.htm>.

Graphic 3. Staging Classification³



³ “Ann Arbor” Staging Classification,” “Lymphoma: Clinical- Hodgkin’s Lymphoma.” *Pathology Tool*. University of Virginia Medical School. 02 May 2012. Accessed 9/22/2013 at <http://www.med-ed.virginia.edu/courses/path/innes/wcd/hodgclinic.cfm>.

Question 93: Were systemic symptoms (B symptoms) present?

Systemic symptoms, also known as “B” symptoms, are defined as follows:

- unexplained fever > 38° C (100.4°F)
- night sweats
- unexplained weight loss of > 10% of body weight over 6 months

Evidence of “B” symptoms is significant because it may indicate the presence of disease in parts of the body not identified using standard testing methods. The presence or absence of “B” symptoms may be indicated in the staging (e.g., II-B or II-A).

If there was evidence of “B” symptoms at diagnosis, select “yes”. If there was no evidence of “B” symptoms, select “no.” If documentation is not clear or is not available to determine if “B” symptoms were present at diagnosis or prior to first therapy, select “unknown.”

Question 94: What scale was used to determine the recipient’s functional status:

The CIBMTR uses the Karnofsky/Lansky scale to determine the functional status of the recipient at time of diagnosis. The Karnofsky Scale is designed for recipients aged 16 years and older, and is not appropriate for children under the age of 16. The Lansky Scale is designed for recipients one year old to less than 16 years old. If the recipient is less than one year old, leave questions 94-96 blank.

Questions 95-96: Performance Score:

Recipient performance status is a critical data field that has been determined to be essential for all outcome-based studies. If a Karnofsky/Lansky score is not documented in the source documentation (e.g., inpatient progress note, physician’s clinic note), data management professionals should not assign a performance score based on analysis of available documents. Rather, a physician should provide documentation of the performance score.

The CIBMTR recognizes that some transplant centers prefer to assign and use the ECOG performance score as opposed to the Karnofsky/Lansky score. Although the ECOG and Karnofsky/Lansky performance score systems are based on similar principles, the scales are not the same. The Karnofsky/Lansky scale is described in 10 categories, whereas the ECOG performance status uses six categories. Due to the overlap between the two systems, an ECOG score of “one” can represent either “80” or “90” on the Karnofsky/Lansky scale; whereas, a Karnofsky/Lansky score of “80” or “90” is converted directly to an ECOG score of “one.” Therefore, the Karnofsky/Lansky scale can be more accurately converted into ECOG.

However, for centers that collect only an ECOG performance score, CIBMTR will make the following accommodations when auditing the source data:

- Centers assigning ECOG scores should do so using standard practices to ensure accuracy.
- For the purposes of CIBMTR reporting, conversion of ECOG to Karnofsky/Lansky should follow a standard and consistent practice to account for the lack of direct mapping. This practice should be clear and reproducible.

Select the appropriate performance scale, Karnofsky or Lansky, based on the recipient's age. Using this scale, select the score (10-100) that best represents the recipient's activity status at the time of diagnosis. The only valid scores are 10-100. Zero is not a valid response for this scale, nor are values not ending in zero, such as "85." The Karnofsky/Lansky scale can be found in [Appendix L](#).

Q97-158: Disease Assessment at Transformation

Question 97: Is the non-Hodgkin lymphoma histology reported at diagnosis (question 2) a transformation from CLL?

In some cases, CLL may evolve to a more aggressive diffuse large B-cell lymphoma (DLBCL). This is commonly referred to as Richter's syndrome or Richter's transformation.

If the current histopathological examination shows a transformation from CLL, indicate "yes," continue with question 193, and **complete Form 2013**.

If the current histopathological examination does not show a transformation from CLL, indicate "no" and continue with question 98.

Question 98: Was histologic transformation (not from CLL) detected at the same time or at any time after the lymphoma diagnosis (question 2)?

Transformation may occur when a slow-growing lymphoma with an indolent clinical history changes to a more aggressive lymphoma as evaluated histopathologically and clinically. An example of a common transformation would include follicular lymphoma evolving to a diffuse large B-cell lymphoma (DLBCL).

If a histologic transformation occurred after or concurrently with diagnosis, indicate "yes" and continue with Question 99.

If a histologic transformation did not occur after or concurrently with diagnosis, indicate "no" and continue with question 193.

Questions 99-100: What was the lymphoma histology at transformation?

Indicate the histopathological diagnosis of the lymphoma by selecting the specified subtype in the drop down menu or the 2-digit key code from the list located on the form. Please note that these codes are utilized for data entry purposes and are not the same as the CIBMTR database codes. If "Other B-cell lymphoma" (code 25) or "Other T-cell / NK-cell lymphoma" (code 40) is selected, specify the type in question 100.

If the recipient had multiple types of lymphoma at diagnosis, report the most aggressive lymphoma as the transformation.

Question 101: Was the date of transformation the same as the date of diagnosis?

If the recipient had multiple types of lymphoma at diagnosis, report the date of diagnosis as the date of transformation. Select “yes” and continue with question 193.

If the recipient was initially diagnosed with one type of lymphoma and then the disease transformed to another type at a later date, select “no” and continue with question 102.

Question 102: Date of transformation:

Report the date the transformation was diagnosed. Enter the date the sample was collected for examination. If the date of transformation was determined at an outside center, and no documentation of a pathological or laboratory assessment is available, a dictated date within a physician note may be reported.

Question 103: Were immunohistochemical stains obtained?

Immunohistochemical staining is a process where tissue samples are treated with antibodies and dye. These antibodies bind to specific antigens on the surfaces of the cells, allowing for the identification of those cell surface markers under microscopy.

Indicate “yes” if immunohistochemical stains were obtained at transformation. If “yes,” continue with question 104.

If no immunohistochemical stains were obtained, select “no” and continue with question 118. If it is unknown if immunohistochemical stains were obtained, select “unknown” and continue with question 118.

Questions 104-117: Immunohistochemical stain results

Report all findings identified by immunohistochemical analysis at transformation by selecting “positive,” “negative,” or “not done” for each question. This information is usually found in the pathology report from a blood, bone marrow, or other tissue sample on which immunohistochemical processes were used.

Question 118: Was flow cytometry (immunophenotyping) performed?

Flow cytometry assessment is a method of analyzing peripheral blood, bone marrow, or tissue preparations for multiple unique cell characteristics. Cell surface markers are tagged with a light-sensitive dye. The cells are exposed to laser beam, and the deflection of light is measured and corresponding cell surface markers can be identified and quantified.

Indicate “yes” if flow cytometry was done at transformation. If “yes,” continue with question 119.

If flow cytometry was not done, select “no” and continue with question 139. If it is unknown if flow cytometry was done, select “unknown” and continue with question 139.

Questions 119-138: Flow cytometry (immunophenotyping) results:

Report all findings identified by flow cytometry at transformation by selecting “positive,” “negative,” or “not done” for each question. This information is usually found in the pathology report from a blood, bone marrow, or other tissue sample on which flow cytometric processes were used.

Question 139: Were cytogenetics tested (conventional or FISH)?

Cytogenetics is the study of chromosomes. This assessment involves testing blood or bone marrow for known chromosomal abnormalities that reflect the recipient’s disease. FISH is categorized with cytogenetics. Although often used for finding specific features in DNA, FISH is not as sensitive as molecular methods, even though the markers identified may be the same. For more information about cytogenetic testing and terminology, see [Appendix C](#).

If a cytogenetic assessment was performed at transformation, select “yes” and continue with question 140.

If no cytogenetic assessments were performed, select “no” and continue with question 150. If it is unknown if cytogenetic testing was performed, select “unknown” and continue with question 150.

Questions 140-148: Specify if the following cytogenetic abnormalities were identified at transformation:

Report all abnormalities identified by all methods of cytogenetic assessment at transformation by selecting “yes” or “no” for each question.

Question 149: Was documentation submitted to the CIBMTR?

Indicate if a copy of the cytogenetics or FISH report is attached. Use the Log of Appended Documents (Form 2800) to attach a copy of the cytogenetics or FISH report. Attaching a copy of the report may prevent additional queries.

Question 150: Were tests for molecular markers performed (e.g., PCR)?

Molecular assessment involves testing blood or bone marrow for the presence of known molecular markers associated with the recipient’s disease. Molecular assessment is the most sensitive method of detection, and can indicate known genetic abnormalities (e.g., immunoglobulin (Ig) or T-cell receptor gene rearrangements, or other specific lymphoma gene rearrangements). B- or T-cell lineage assignment can also be identified using molecular assessment. PCR testing is an example of a molecular test method.

If molecular testing was performed at transformation, indicate “yes” and continue with question 151.

If no molecular testing was obtained, select “no” and continue with question 159. If it is unknown if molecular testing was obtained, select “unknown” and continue with question 159.

Questions 151-157: Molecular markers:

Indicate if each molecular marker was “positive,” “negative,” or “not done” at transformation. See [Table 1](#) for common molecular markers associated with different lymphomas. If the recipient had a molecular marker assessed that is not listed, select the result of the assessment in question 156 and specify the marker in question 157. Questions 156 and 157 may be answered multiple times to address each “other” molecular marker.

Question 158: Was documentation submitted to the CIBMTR?

Indicate if a copy of the molecular report is attached. Use the Log of Appended Documents (Form 2800) to attach a copy of the molecular report. Attaching a copy of the report may prevent additional queries.

Q159-170: Laboratory Studies at Transformation

Questions 159-160: WBC:

Indicate whether the WBC (white blood cell count) was “known” or “unknown” at the time of lymphoma transformation. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 160.

Questions 161-162: Hemoglobin:

Indicate whether the hemoglobin value was “known” or “unknown” at the time of lymphoma transformation. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 162.

Questions 163-165: LDH:

Indicate whether the LDH (lactate dehydrogenase) level was “known” or “unknown” at the time of lymphoma transformation. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 164 and the upper limit of normal for the value at your institution in question 165.

Questions 166-168: Serum β 2 microglobulin:

Indicate whether the Serum β 2 microglobulin level was “known” or “unknown” at the time of lymphoma transformation. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 167 and the upper limit of normal for the value at your institution in question 168.

Question 169: Was a gene expression profile performed?

Gene expression profiling (GEP) allows for the analysis of thousands of genes at once, creating a global picture of cell function. GEP can distinguish cells that are actively dividing and show how cells react to specific treatments.¹

If gene expression profiling was performed at the time of lymphoma transformation, indicate “yes” and continue with question 170. If gene expression was not performed, select “no” and continue with question 171.

¹ Brunner J, Dispenzieri A. (2013) "Form Revision: Myeloma Changes." Tandem Meetings: CIBMTR Clinical Research Professionals/Data Manager Annual Meeting. Accessed on 9/22/2013 at <http://www.cibmtr.org/Meetings/Materials/CRPDMC/Documents/2013/Feb2013/Feb13FormRevMM-6up.pdf>

Question 170: Were results considered high risk lymphoma?

Based on the opinion of a physician, indicate if the results of the gene expression profile were considered high-risk lymphoma. Indicate "yes" or "no."

Q171-192: Assessment of Nodal and Organ Involvement at Transformation

Question 171: Was a PET (or PET/CT) scan performed?

Positron Emission Tomography (PET) is a type of nuclear medicine imaging in which a patient receives a small amount of radioactively labeled sugar. Because cancer cells absorb sugar more avidly than other cells of the body, the radioactively labeled sugar accumulates in these areas and reveals tumors as bright spots. A PET/CT combines the results of the PET scan along with the results of a CT (computed tomography) scan.

If a PET or PET/CT scan was performed at transformation, indicate “yes” and continue with question 172.

If a PET or PET/CT scan was not performed, indicate “no” and continue with question 173.

Question 172: Was the PET (or PET/CT) scan positive for lymphoma involvement at any disease site?

Indicate “yes” if the PET (or PET/CT) scan showed areas of avid uptake consistent with tumor (i.e., lymphoma). Indicate “no” if the PET or (PET/CT) scan did not show areas of avid uptake consistent with tumor.

Question 173: Was there any known extranodal or splenic involvement?

Extranodal refers to the presentation of lymphoma outside of the lymph nodes. Common areas of extranodal involvement may include bone, gastrointestinal tract, and skin. Splenic involvement in lymphoma is also common. It is usually evidenced by enlargement of the spleen (splenomegaly). Splenic or other extranodal involvement is most often detected by imaging techniques or pathological findings.

If extranodal or splenic involvement was identified at transformation, indicate “yes” and continue with question 174.

If there was no evidence of extranodal or splenic involvement at transformation, indicate “no” and continue with question 188. If extranodal or splenic involvement was unknown at the time of transformation, indicate “unknown” and continue with question 188.

Questions 174-187: Specify site(s) of involvement:

Answer each question with “yes” or “no.” Do not leave any question unanswered. If “Other site(s)” is selected, use question 187 to specify the site.

Question 188: Stage of organ involvement at transformation:

Use the staging criteria below to indicate the organ involvement at transformation. If staging at transformation is not available or unknown, select “unknown.”

Table 3. Lymphoma Staging

Stage	Description
Stage I	Involvement of a single lymph node region or of a single extralymphatic organ or site
Stage II	Involvement of two or more lymph node regions on same side of diaphragm, or localized involvement of extralymphatic organ or site and one or more lymph node regions on same side of diaphragm
Stage III	Involvement of lymph node regions on both sides of diaphragm, which may also be accompanied by localized involvement of extralymphatic organ or site, or the spleen, or both
Stage IV	Diffuse or disseminated involvement of one or more extralymphatic organs in tissues with or without associated lymph node enlargement/involvement

Question 189: Were systemic symptoms (B symptoms) present?

Systemic symptoms, also known as “B” symptoms, are defined as follows:

- unexplained fever > 38° C (> 100.4°F)
- night sweats
- unexplained weight loss of > 10% of body weight over 6 months

Evidence of “B” symptoms is significant because it may indicate the presence of disease in parts of the body not identified using standard testing methods. The presence or absence of “B” symptoms may be indicated in the staging (e.g., II-B or II-A).

If there was evidence of “B” symptoms at transformation, select “yes”. If there was no evidence of “B” symptoms, select “no.” If documentation is not clear or is not available to determine if “B” symptoms were present, select “unknown.”

Question 190: What scale was used to determine the recipient’s functional status:

The CIBMTR uses the Karnofsky/Lansky scale to determine the functional status of the recipient at time of transformation. The Karnofsky Scale is designed for recipients aged 16 years and older, and is not appropriate for children under the age of 16. The Lansky Scale is designed for recipients one year old to less than 16 years old. If the recipient is less than one year old, questions 190-192 should be left blank.

Questions 191-192: Performance Score:

Recipient performance status is a critical data field that has been determined to be essential for all outcome-based studies. If a Karnofsky/Lansky score is not documented in the source documentation (e.g., inpatient progress note, physician's clinic note), data management professionals **should not** assign a performance score based on analysis of available documents. Rather, a physician should provide documentation of the performance score.

The CIBMTR recognizes that some transplant centers prefer to assign and use the ECOG performance score as opposed to the Karnofsky/Lansky score. Although the ECOG and Karnofsky/Lansky performance score systems are based on similar principles, the scales are not the same. The Karnofsky/Lansky scale is described in 10 categories, whereas the ECOG performance status uses six categories. Due to the overlap between the two systems, an ECOG score of "one" can represent either "80" or "90" on the Karnofsky/Lansky scale; whereas, a Karnofsky/Lansky score of "80" or "90" is converted directly to an ECOG score of "one." Therefore, the Karnofsky/Lansky scale can be more accurately converted into ECOG.

However, for centers that collect only an ECOG performance score, CIBMTR will make the following accommodations when auditing the source data:

- Centers assigning ECOG scores should do so using standard practices to ensure accuracy.
- For the purposes of CIBMTR reporting, conversion of ECOG to Karnofsky/Lansky should follow a standard and consistent practice to account for the lack of direct mapping. This practice should be clear and reproducible.

Select the appropriate performance scale, Karnofsky or Lansky, based on the recipient's age. Using this scale, select the score (10-100) that best represents the recipient's activity status at the time of diagnosis. The only valid scores are 10-100. Zero is not a valid response for this scale, nor are values not ending in zero, such as "85." The Karnofsky/Lansky scale can be found in [Appendix L](#).

Q193-280: Pre-HCT Therapy

When submitting the paper version of the form for more than two lines of therapy, copy the “Pre-HCT Treatment for Non-Hodgkin Lymphoma/Hodgkin Lymphoma” section and complete a “Line of Therapy” section for each line of therapy administered. The FormsNet3SM application allows multiple lines of therapy to be reported. Complete a “Line of Therapy” section for each line of therapy administered prior to the start of the preparative regimen. Examples of therapies given for indolent and aggressive NHL are in Table 4 below.

Table 4. Examples of Therapy

Therapy for Indolent NHL	Therapy for Aggressive NHL
Paradoxical in that cure not obtained with conventional therapy	Aggressive therapy with curative intent
Watchful waiting approach with therapy for symptomatic progression	CHOP-based therapy for B-cell neoplasms
Radiation in limited disease	Adjunctive radiation to sites of bulk disease (defined as > 10 cm in largest diameter ¹)
Chemotherapy	Risk stratification for patients to be considered for BMT in 1st remission
Biologic therapy (MoAb, IFN)	Biologic therapy (anti-CD20 based therapy)
Hematopoietic cell transplant (allogeneic vs. autologous)	Hyper-CVAD for mantle cell/highly aggressive diseases

¹ Casciato D, Territo M. Manual of Clinical Oncology. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 2009.

Question 193: Was therapy given?

Indicate if the recipient received treatment for lymphoma between diagnosis and the start of the preparative regimen. If “Yes,” continue with 194. If “No,” continue with 281.

Question 194: Systemic therapy:

Systemic therapy refers to a delivery mechanism where a therapeutic agent is delivered orally or intravenously, enters the bloodstream, and is distributed throughout the body. Below are common examples of lines of therapy administered.

Table 5. Common Lymphoma Chemotherapy Regimens (Lines of Therapy)

Acronym	Drugs
FLAG	Fludarabine
	Cytarabine (Ara-C)
	G-CSF
CHOP	Cyclophosphamide
	Adriamycin
	Vincristine
	Corticosteroids (Prednisone)
ESHAP	Etoposide (VP16)
	Corticosteroids (Prednisone)
	Cytarabine (Ara-C)
	Cisplatin
RICE	Rituximab
	Ifosfamide
	Carboplatin
	Etoposide (VP16)
BEAM	BCNU (Carmustine)
	Etoposide (VP16)
	Cytarabine (Ara-C)
	Melphalan

If systemic therapy was administered pre-HCT for the treatment of lymphoma, indicate “yes” and continue with question 195.

If systemic therapy was not administered pre-HCT for the treatment of lymphoma, indicate “no” and continue with question 254.

Questions 195-196: Date therapy started:

Indicate if the therapy start date is “known” or “unknown.” If the therapy start date is known, enter the date the recipient began this line of therapy in question 196. If the start date is partially known (i.e., the recipient

started treatment in mid-July 2010), use the process for reporting partial or unknown dates as described in [General Instructions, Guidelines for Completing Forms](#).

Questions 197-198: Date therapy stopped:

Indicate if therapy stop date is “known” or “unknown.” If the therapy stop date is known and the recipient received therapy administered in cycles, report the date the recipient started the last cycle for this line of therapy in question 198.

If the recipient received therapy administered on a daily basis (e.g., rituximab therapy each day) report the last date the recipient received the line of therapy.

Questions 199-200: Number of cycles:

Systemic therapy (e.g., chemotherapy, monoclonal Abs) is usually administered in cycles with rest periods between the cycles. This enables cancer cells to be attacked at vulnerable times and provides healthy cells adequate time to recover from the damage. A cycle can last one or more days and may repeat weekly, bi-weekly, or monthly. A systemic therapy course may consist of multiple cycles.

Indicate if the number of cycles is “known” or “unknown.” If known, enter the number of cycles the recipient received during the line of therapy being reported in question 200. If “unknown,” continue with question 201.

Questions 201-252: Specify therapy given:

Treatments vary based on protocol and in most cases are administered in the outpatient setting. A treatment may consist of a single drug or a combination of drugs. Additionally, the drugs may be administered on one day, over consecutive days, or continuously. For the line of therapy being reported, indicate “yes” or “no” for each chemotherapy treatment regimen or drug administered. Do not leave any responses blank. If the recipient received a treatment that is not listed, check “yes” for “other systemic therapy” and specify the treatment in question 252. Report the generic name of the agent, not the brand name.

Common combination regimens such as CHOP (cyclophosphamide, doxorubicin, vincristine, and prednisone) or R-ICE (rituximab, ifosfamide, carboplatin, and etoposide) are options available for selection. If a combination regimen is selected, the individual drugs should not also be selected. However, if a drug is given in addition to a common regimen, specify the regimen and the individual drug (i.e., For R-ESHAP, select “Rituximab” and “ESHAP”).

Question 253: Was this line of therapy given for stem cell mobilization (priming)?

Indicate “yes” if this line of therapy was given for stem cell priming. For example, R-ICE (rituximab, ifosfamide, carboplatin, and etoposide) may be used in a lymphoma patient to collect their peripheral blood

stem cells (PBSCs) as they recover their white blood count. Answer “no” if this line of therapy was not given for stem cell priming.

Question 254: Radiation therapy:

Radiation therapy uses high-energy radiation to kill cancer cells. Indicate if the recipient received radiation therapy between the time of diagnosis and the start of the preparative regimen. If “yes,” continue with question 255. If “no,” continue with question 271.

Questions 255-256: Date therapy started:

Indicate if the start date for radiation therapy is “known” or “unknown.” If known, enter the date the line of radiation therapy began in question 256.

Questions 257-258: Date therapy stopped:

Indicate if the stop date for radiation therapy is “known” or “unknown.” If known, enter the date the line of radiation therapy ended in question 258.

Question 259: What was the extent of the radiation field?

Indicate the extent of the radiation field as “extended,” “involved field radiotherapy (IFRT),” “involved node,” or “unknown.” This information is often available on the radiation oncology treatment summary.

Extended radiation is radiotherapy given to the involved nodal regions, but also to areas where the cancer may spread.

Involved-field radiotherapy (IFRT) is radiotherapy given to just the affected nodal region.

Involved node radiation is radiotherapy given to just the affected node (and margins).

Questions 260-265: Specify site(s) of radiation therapy:

Indicate the site(s) of radiation therapy. This information is often available on the radiation oncology treatment summary or within the progress notes. Answer each question “yes” or “no” and do not leave any questions blank. If yes is selected for “other site(s),” specify in question 265.

Question 266: Dose per fraction:

Enter the dose per fraction in either grays (Gy) or centigrays (cGy).

The dose per fraction multiplied by the total number of fractions (question 267) must be equal to the total dose reported in question 268.

Question 267: Total number of fractions:

Enter the total number of fractions (treatments) of radiation that were administered. The recipient may receive more than one fraction per day (hyperfractionation).

The total number of fractions multiplied by the dose per fraction (question 266) must be equal to the total dose reported in question 268.

Question 268: Total dose:

Enter the total dose of radiation given. If radiation is given as a single dose, the amount of radiation delivered in the single dose constitutes the total dose. If the radiation is given in fractionated doses, multiply the total number of fractions by the dose per fraction to determine the total dose. Enter the total dose of radiation in either grays (Gy) or centigrays (cGy).

Example:

Radiation Order: TBI, 200 cGy/day for three days (3 doses)

Total dose: 200 cGy x 3 doses = 600 cGy

Report "Total Dose" as: 600 cGy

Questions 269-270: Specify technique:

Indicate the technique that was used to deliver the radiation for this line of therapy. This information is often available on the radiation oncology treatment summary. If the technique is not known, specify "unknown." If the technique is not already specified in the list, select "other" and specify in question 270.

Question 271: Surgery:

If the recipient underwent surgical treatment for lymphoma prior to HCT, indicate "yes" and continue with question 272. If the recipient did not undergo surgical treatment for lymphoma prior to HCT, indicate "no" and continue with question 277.

Do not report the initial diagnostic biopsy, even if surgery was required, as pre-HCT therapy.

Questions 272-273: Date of surgery:

Indicate if the date of surgery is "known" or "unknown." If known, enter the date the surgery occurred in question 273.

Questions 274-276: Specify site(s) of surgery:

Indicate the site of the surgery. Indicate “yes or “no” for “splenectomy” and for “other site.” If “other site(s)” is selected, specify in question 276

Question 277: Best response to line of therapy:

Indicate the best response to this line of therapy. See [Lymphoma Response Criteria](#) for disease status definitions. The best response is determined by a disease assessment such as radiology, pathology, or physician evaluation.

Question 278: Date assessed:

Report the date the best response to this line of therapy was established. Enter the date the sample was collected for pathological evaluation (e.g., bone marrow or lymph node biopsy) or the date of radiological examination (e.g., CT or PET scan). If no pathological or radiological assessment was performed to establish the best response to the line of therapy, report the office visit in which the physician clinically evaluated the recipient’s response.

If the exact date is not known, use the process for reporting partial or unknown dates as described in [General Instructions, Guidelines for Completing Forms](#).

Question 279: Did disease relapse/progress following this line of therapy?

A relapse is defined as the recurrence of disease following CR. A progression is defined as new or recurrent marrow involvement, any new lesion or increase of > 50% of previously involved sites from nadir. For patients with liver or spleen involvement, criteria for progression also include > 50% increase from nadir of any previous lesions. For patients previous bone marrow involvement, criteria for progression includes new or recurrent involvement.

Indicate “yes” if relapse or progression occurred following the line of therapy being reported and continue with question 280. Indicate “no” if the recipient did not relapse or progress following this line of therapy and continue with question 281.

Question 280: Date of relapse/progression:

Enter the date the relapse or progression was established following the line of therapy. Enter the date the sample was collected for pathological evaluation (e.g., bone marrow or lymph node biopsy) or the date of radiological examination (e.g., CT or PET scan). If no pathological or radiological assessment was performed to establish relapse or progression, report the office visit in which the physician clinically evaluated the recipient’s disease status.

If the exact date is not known, use the process for reporting partial or unknown dates as described in [General Instructions, Guidelines for Completing Forms](#).

Q281-323: Disease Assessment at Last Evaluation Prior to the Start of the Preparative Regimen

Questions 281-283: Serum β 2 microglobulin:

Indicate whether the Serum β 2 microglobulin level was “known” or “unknown” at the last evaluation prior to the start of the preparative regimen. If “known,” report the laboratory value and unit of measure documented on the laboratory report in question 282 and the upper limit of normal for the value at your institution in question 283.

Question 284: Was a PET (or PET/CT) scan performed after the most recent line of therapy or at the time of pre-HCT evaluation?

Positron Emission Tomography (PET) is a type of nuclear medicine imaging in which a patient receives a small amount of radioactively labeled sugar. Because cancer cells absorb sugar more avidly than other cells of the body, the radioactively labeled sugar accumulates in these areas and reveals tumors as bright spots. A PET/CT combines the results of the PET scan along with the results of a CT (computed tomography) scan.

If a PET or PET/CT scan was performed after the most recent line of therapy or at the time of pre-HCT evaluation, indicate “yes” and continue with question 285.

If a PET or PET/CT scan was not performed, indicate “no” and continue with question 286.

Question 285: Was the PET (or PET/CT) scan positive for lymphoma involvement at any disease site?

Indicate “yes” if the PET (or PET/CT) scan showed areas of avid uptake consistent with tumor (i.e., lymphoma). Indicate “no” if the PET or (PET/CT) scan did not show areas of avid uptake consistent with tumor.

Question 286: Were cytogenetics tested (conventional or FISH)?

Cytogenetics is the study of chromosomes. Cytogenetic assessment involves testing blood or bone marrow for known chromosomal abnormalities that reflect the recipient’s disease. FISH is categorized with cytogenetics. Although often used for finding specific features in DNA, FISH is not as sensitive as molecular methods, even though the markers identified may be the same.

If a cytogenetic assessment was performed at last evaluation prior to the start of the preparative regimen, select “yes” and continue with question 287.

If no cytogenetic assessments were performed, select “no” and continue with question 296. If it is unknown if cytogenetic assessments were performed, select “unknown” and continue with question 296.

Questions 287-295: Specify if any of the following cytogenetic abnormalities were identified at the last evaluation prior to the start of the preparative regimen:

Report all abnormalities identified by all methods of cytogenetic assessment at transformation by selecting “yes” or “no” for each question.

Question 296: Were tests for molecular markers performed (e.g., PCR)?

Molecular assessment involves determining whether a molecular marker for the disease exists. Molecular assessment is the most sensitive method of detection, and can indicate known genetic abnormalities [e.g., immunoglobulin (Ig) or T-cell receptor gene rearrangements, or other specific lymphoma gene rearrangements]. B- or T-cell lineage assignment can also be identified using molecular assessment. PCR testing is an example of a molecular test method.

If molecular testing was performed at the last evaluation prior to the start of the preparative regimen, indicate “yes” and continue with question 297.

If no molecular testing was performed, select “no” and continue with question 304. If it is unknown if molecular testing was obtained, select “unknown” and continue with question 304.

Questions 297-303: Molecular markers:

Indicate if each molecular marker was “positive,” “negative,” or “not done” at the last evaluation prior to the start of the preparative regimen. See [Table 1](#) for common molecular markers associated with different lymphomas. If the recipient had a molecular marker assessed that is not listed, select the results of the assessment in question 302 and specify the marker in question 303. Questions 302 and 303 may be answered multiple times to address each “other” molecular marker.

Question 304: Did the recipient have known nodal involvement?

Refer to [Graphic 1](#) for identification of nodal areas. Nodal involvement may be assessed by a physician palpating lymph nodes, pathology from a lymph node biopsy, or radiological assessment (e.g., PET or CT imaging).

If evidence of nodal involvement is indicated at the last evaluation prior to the start of the preparative regimen, select “yes” and continue with Question 305.

If there is no evidence of nodal involvement upon assessment, select “no” and continue with Question 307.

Question 305: Specify the total number of nodal regions involved:

Lymph node regions or groups occur above and below the diaphragm. Nodal regions include cervical (neck), axillary (underarm), mediastinal (thoracic), mesenteric (abdominal), para-aortic (pelvic), inguinal (groin), epitrochlear (inside of arm just above elbow), and popliteal (back of knee). Refer to [Graphic 3](#) for specific nodes within each nodal region. Indicate the total number of nodal regions with evidence of lymphoma involvement. Report “one nodal region,” “two or more nodal regions,” or “unknown.”

Question 306: Specify the size of the largest nodal mass:

Report the size of the largest known nodal mass in centimeters. If the mass is given in three dimensions (for example, 3 cm x 5 cm x 4 cm), report the longest two dimensions.

Question 307: Was there any known extranodal or splenic involvement?

Extranodal refers to the presentation of lymphoma outside of the lymph nodes. Common areas of extranodal involvement include bone, gastrointestinal tract, and skin. Splenic involvement in lymphoma is also common. It is usually evidenced by enlargement of the spleen (splenomegaly). Splenic or other extranodal involvement is most often detected by imaging techniques or pathological findings.

If extranodal or splenic involvement was identified at last evaluation prior to the start of the preparative regimen, indicate “yes” and continue with question 308. If there was no evidence of extranodal or splenic involvement, indicate “no” and continue with question 322. If extranodal or splenic involvement is unknown, indicate “unknown” and continue with question 322.

Questions 308-321: Specify site(s) of extranodal involvement:

Answer each question with “yes” or “no.” Do not leave any question unanswered. If “Other site(s)” is selected, specify the site using question 321.

Question 322: What was the disease status?

Choose the disease status from the list provided. **See [Lymphoma Response Criteria](#) for disease status definitions.** When determining the disease status, compare the restaging assessments immediately prior to the preparative regimen to the assessments at baseline. “Baseline” is defined as the disease at diagnosis or at relapse/progression.

Question 323: Date assessed:

Enter the date of the most recent assessment of disease status prior to the start of the preparative regimen. Report the date imaging took place for the radiographic assessment (CT, MRI, PET, or PET/CT). Report the date the sample was collected for pathological evaluation (e.g., bone marrow biopsy). If no radiographic or pathologic assessment was performed within one month prior to transplant, report the most recent office visit in which the physician evaluated the recipient's disease status.

If the exact date is not known, use the process for reporting partial or unknown dates as described in [General Instructions, Guidelines for Completing Forms](#).